

**Table I-1. Managed Seasonal Wetland Communities: Potential CALFED Effects and Conservation Measures**

**Summary Effect of Implementing CALFED Actions and Conservation Measures on Managed Seasonal Wetland Communities:** Potential for an increase of up to 29,500 acres of managed seasonal wetland in the Delta and Bay Regions and increase in habitat values provided for wildlife on up to approximately 300,125 acres of existing managed seasonal wetlands in all regions, and potential increase in habitat area incidental to restoration and enhancement of other wetland habitats. Potential for short-term loss or degradation of existing managed seasonal wetland habitats and long-term increase in habitat area with implementation of conservation measures to compensate for CALFED impacts.

**Associated Evaluated Species:** Western snowy plover, American peregrine falcon, American peregrine falcon critical habitat, bald eagle, Aleutian Canada goose, giant garter snake, California red-legged frog, vernal pool tadpole shrimp, greater sandhill crane, white-tailed kite, Swainson's hawk, California tiger salamander, tricolored blackbird, short-eared owl, California gull, long-billed curlew, northern harrier, white-faced ibis, and western pond turtle.

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
<b>Delta Region</b>					
<b>Associated Evaluated Species:</b> American peregrine falcon, bald eagle, Aleutian Canada goose, giant garter snake, California red-legged frog, vernal pool tadpole shrimp, greater sandhill crane, white-tailed kite, Swainson's hawk, California tiger salamander, short-eared owl, California gull, long-billed curlew, northern harrier, white-faced ibis, and western pond turtle.					
Summary Programmatic Action Outcomes E1, E4, E9, E17, E19-22, E24, E25, E28, Q1, Q2, Q7, W1-4, and M1 are likely to have no discernable effect on managed seasonal wetland communities in the Delta Region.					
<b>Ecosystem Restoration Program</b>					
E5a. Restoration of up to 7,500 acres of tidal shallow-water habitat.	E010401, E010402, E010403, E010404, E010405, E010406, E010407, E010901, E010902, E010903, E010904, E010905, E010906, E015201, E015202	Likely to be no discernable beneficial effects on existing habitat areas and associated evaluation species (N/E).	Potential for loss of seasonal wetlands managed for wildlife resulting from conversion of managed habitats to habitat types of lesser value to associated species (AE1).	To the extent practicable, avoid restoring habitat on lands occupied by evaluation species if restored habitat would be of lesser value to evaluation species (M1).	Potential for short-term loss of habitat for some species and long-term increase in suitable habitat area with implementation of conservation measures.

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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E18a. Cooperative management of 40,000–75,000 acres of agricultural lands to enhance habitat values for waterfowl and other associated species.	E011901, E011902, E011903, E011904, E011905, E011906, E011907, E007101	Substantial increase in the availability and/or abundance of forage for species that typically also forage in managed seasonal wetlands (BE3).	Likely to be no discernable adverse effects on existing habitat areas and associated evaluation species (N/E).	None.	Potential for substantial increase in forage availability and/or abundance for species that also use managed seasonal wetlands.
E27a. Reduction in the concentrations and loadings of contaminants in the aquatic environment by 25%–50%.	E015701, E015702	Reduction in the use of herbicides and pesticides in or near existing habitat areas could result in an increase in invertebrate populations that are adversely effected by toxic agents and that are prey for some evaluation species (BE4).	N/E.	None	Implementation of the proposed actions would most likely have no discernable effect on the evaluation species' numbers or distribution.

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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
<b>Levee System Integrity Program</b>					
L1. Improvement and maintenance of Delta levees.	L010101, L010102, L010201, L010202, L010301	Long-term protection of existing habitat areas from flooding that would result from levee failures (BE5).	Potential for loss of habitat area if it is necessary to set back levees to achieve improvements (AE3).  AE2.	M2.  To the extent practicable, avoid construction activities in habitat areas when evaluation species are present and could be affected by proposed actions (M5).	Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.
L2. Reduction in the risk to levee stability from subsidence.	L010401, L010402	Potential beneficial effects of the program are not analyzed. The type and magnitude of potential beneficial effects would depend on the type of specific program actions that are implemented (N/A).	Potential adverse effects of the program are not analyzed. The type and magnitude of potential adverse effects would depend on the type of specific program actions that are implemented (N/A).		Potential program effects cannot be evaluated.
<b>Water Quality Program</b>					
Q4. Reduction of pesticide loadings in the aquatic environment.	Q010501	BE4.	N/E.	None	Implementation of the proposed actions would most likely have no discernable effect on the evaluation species' numbers or distribution.

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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
<b>Water Transfer Program</b>					
T1. Implement a framework of actions, policies, and processes that will facilitate transfers and the further development of a statewide water transfer market.	None.	Potential for increasing the availability of water for management of existing and created managed seasonal wetland habitat areas if water supplies are made available for such uses through water transfers (BE6).	N/E	None.	Potential for long-term increases in managed seasonal wetland habitat area if water is transferred for this use.
<b>Conveyance Facilities</b>					
C1. Construct and operate modifications to existing south-Delta conveyance features.	C010101, C010102, C010103, C010104, C010105, C010106, C010107, C010108	N/E	Construction of interties and supporting infrastructure between existing conveyance facilities and export pumps could result in the permanent loss of managed seasonal wetland habitat area (AE4).  AE2.	To the extent consistent with program objectives, avoid constructing conveyance facilities and associated infrastructure within managed seasonal wetland habitat areas (M6).  M2. M3.	Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.
C2. Construct and operate modifications to existing north-Delta conveyance features.	C020101, C020102, C020103	N/E	AE4.  AE2.	M6.  M2. M3.	Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.

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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
C3 Construct and operate an isolated conveyance facility from the Sacramento River along the east side of the Delta to Clifton Court Forebay.	C030101	N/E	AE4.  AE2.	M6.  M2. M3.	Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.
<b>Storage Facilities</b>					
S1. Construct and operate enlarged or new surface storage facilities.	None.	Potential for increase in managed seasonal wetland habitat area if storage facilities are located on islands that support little or no seasonal wetland habitat and storage islands are operated in a manner that results in the creation of wetland habitats (BE7).	Potential for permanent loss of habitat on Delta islands that support managed wetlands and are used for storage (AE5).  AE2.	To the extent consistent with program objectives, select Delta islands that do not support seasonal wetlands for use as storage facilities (M7).  To the extent consistent with program objectives, manage storage operations to create seasonal wetland habitat areas along shorelines and lands exposed during drawdown periods (M8).  M2. M3.	If islands to be used as storage support little or no managed seasonal wetlands, potential for an increase in seasonal wetland habitat area.  Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.



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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
<b>Water Operations</b>					
01. Implement operating criteria needed to improve water management for beneficial uses.	None.	N/A	N/A		Potential program effects cannot be evaluated.
02. Implement an Environmental Water Account to provide operational flexibility to achieve environmental benefits.	None.	N/A	N/A		Potential program effects cannot be evaluated.
<b>Bay Region</b>					
<b>Associated Evaluated Species:</b> western snowy plover, American peregrine falcon, bald eagle, Aleutian Canada goose, giant garter snake, California red-legged frog, vernal pool tadpole shrimp, white-tailed kite, Swainson's hawk, California tiger salamander, short-eared owl, California gull, long-billed curlew, northern harrier, white-faced ibis, and western pond turtle.					
Summary Programmatic Action Outcomes E1, E12, E14, E21, E22, E24, E25, E28, E30, Q2, Q7, Q8, W1-4, and M1 are likely to have no discernable effect on managed seasonal wetland habitat communities in the Bay Region.					
<b>Ecosystem Restoration Program</b>					
E5b. Restoration of at least 1,500 acres of tidal shallow-water habitat.	E020401, E020901, E021101, E025201	N/E	AE1.   AE2.	M1.  M2. M3.	Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.

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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E15b. Restoration of 50-75 miles of riparian habitat along channels and reduction of populations of invasive non-native riparian plants by 50%.	E021601, E025301, E025302	N/E	AE1.          AE2.	M1.          M2. M3.	Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.
E16b. Restoration of up to 5,000 acres of perennial grassland.	E021801	BE2.	AE1.          AE2.	M1.          M2. M3.	Potential for increasing foraging, nesting, or roosting habitat area for wetland-associated species that also use grassland habitats where grassland is restored adjacent to existing habitat areas.          Potential for temporary loss or degradation of habitat associated with restoration activities adjacent to wetlands.
<b>Levee System Integrity Program</b>					
L3. Enhancement of the level of flood protection provided by Suisun Marsh levees.	None.	BE5.	AE3.	M2.	Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.

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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
			AE2.	M5.	
<b>Water Quality Program</b>					
Q4. Reduction of pesticide loadings in the aquatic environment.	Q020501	BE4.	N/E.	None	Implementation of the proposed actions would most likely have no discernable effect on the evaluation species' numbers or distribution.
<b>Water Transfer Program</b>					
T1. Implement a framework of actions, policies, and processes that will facilitate transfers and the further development of a statewide water transfer market.	None.	BE6.	N/E	None.	Potential for long-term increases in managed seasonal wetland habitat area if water is transferred for this use.
<b>Sacramento River Region</b>					
<b>Associated Evaluated Species:</b> western snowy plover, American peregrine falcon, bald eagle, Aleutian Canada goose, giant garter snake, California red-legged frog, vernal pool tadpole shrimp, greater sandhill crane, white-tailed kite, Swainson's hawk, California tiger salamander, tricolored blackbird, short-eared owl, California gull, long-billed curlew, northern harrier, white-faced ibis, and western pond turtle.					
Summary Programmatic Action Outcomes E1, E2, E3, E6, E15c, E22-26, Q1-3, Q7, W1-4, M1, S1, S2, O1, and O2 are likely to have no discernable effect on managed seasonal wetland communities in the Sacramento River Region.					
<b>Ecosystem Restoration Program</b>					
E13c. Enhancement and management of up to 73,325 acres of existing seasonal wetlands for wildlife.	E061501, E061502, E071501, E071502, E081501, E081502, E090405, E090406, E091501, E091502	Potential for substantial increase in habitat values associated with managed seasonal wetlands as a result of improved management (BE9).	AE2.	M3.	Substantial increase in wildlife habitat values associated with existing managed seasonal wetlands.

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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
<b>Water Quality Program</b>					
Q4. Reduction of pesticide loadings in the aquatic environment.	Q030501, Q040501, Q050501, Q060501, Q070501, Q080501, Q090501, Q100501	BE4.	N/E.	None	Implementation of the proposed actions would most likely have no discernable effect on the evaluation species' numbers or distribution.
<b>Water Transfer Program</b>					
T1. Implement a framework of actions, policies, and processes that will facilitate transfers and the further development of a statewide water-transfer market.	None.	BE6.	N/E	None.	Potential for long-term increases in managed seasonal wetland habitat area if water is transferred for this use.
<b>San Joaquin River Region</b>					
<b>Associated Evaluated Species:</b> American peregrine falcon, bald eagle, Aleutian Canada goose, giant garter snake, California red-legged frog, vernal pool tadpole shrimp, greater sandhill crane, white-tailed kite, Swainson's hawk, California tiger salamander, tricolored blackbird, short-eared owl, California gull, long-billed curlew, northern harrier, white-faced ibis, and western pond turtle.					
Summary Programmatic Action Outcomes E1, E2, E6, E15d, E22-26, E29, Q1, Q2, Q5, Q7, Q8, W1-4, M1, S1, S2, O1, and O2 are likely to have no discernable effect on managed seasonal wetland communities in the San Joaquin River Region.					
<b>Ecosystem Restoration Program</b>					
E13d. Protection and enhancement of up to 172,800 acres of seasonal wetlands in the San Joaquin River Ecological Management Zone and protection and enhancement of existing seasonal wetlands elsewhere in the San Joaquin River Region.	E111501, E121501, E121502, E141501, E141502	BE9.	AE2.	M3.	Substantial increase in wildlife habitat values associated with existing managed seasonal wetlands.

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Table I-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E18c. Cooperative management of up to 15,290 acres of agricultural lands to enhance habitat values for waterfowl and other associated species.	121901, 141901	Long-term protection of agricultural lands that provide forage for species that also use managed seasonal wetlands from potential loss or degradation associated with potential future changes in land use (BE10).	N/E	None	Long-term protection of agricultural lands that provide forage for species that also use managed seasonal wetlands from potential loss or degradation associated with potential future changes in land use.
E27b. Reduction in the concentrations and loadings of contaminants in the aquatic environment.	E115701, E115702, E115703, E125701, E125702	BE4.	N/E.	None	Implementation of the proposed actions would most likely have no discernable effect on the evaluation species' numbers or distribution.
<b>Water Quality Program</b>					
Q4. Reduction of pesticide loadings in the aquatic environment.	Q120501, Q130501, Q140501, Q140502	BE4.	N/E.	None	Implementation of the proposed actions would most likely have no discernable effect on the evaluation species' numbers or distribution.
Q6. Reduction in selenium concentrations and loadings to the aquatic environment.	Q140701, Q140702, Q140703, Q140704, Q140705, Q140706, Q140707	N/E	Potential for loss of managed seasonal wetlands if wetlands are retired to reduce selenium loadings (AE6).	M2.	Potential for short-term loss of habitat for some species and long-term increase in habitat area with implementation of conservation measures.

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**Table I-2. Key to Table I-1 Potential Beneficial Effects, Potential Adverse Effects, and Conservation Measures Codes**

Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program
Substantial increase in the quantity and potential for substantial increase in habitat values associated with existing managed seasonal wetlands as a result of improved management (BE1).	Potential for loss of seasonal wetlands managed for wildlife resulting from conversion of managed habitats to habitat types of lesser value to associated species (AE1).	To the extent practicable, avoid restoring habitat on lands occupied by evaluation species if restored habitat would be of lesser value to evaluation species (M1).
Potential for increased wildlife habitat values for some associated species where grassland is restored adjacent to existing wetlands (BE2).	Construction-related activities associated with implementing actions could result in take of evaluated species (AE2).	Restore or enhance 1-3 acres of suitable natural or managed wetland or agricultural habitats for evaluation species affected by the loss of managed wetlands (M2).
Substantial increase in the availability and/or abundance of forage for species that typically also forage in managed seasonal wetlands (BE3).	Potential for loss of habitat area if it is necessary to set back levees to achieve improvements (AE3).	To the extent practicable, avoid construction activities during the breeding period of species that could be adversely affected by the actions (M3).
Reduction in the use of herbicides and pesticides in or near existing habitat areas could result in an increase in invertebrate populations that are adversely effected by toxic agents and that are prey for some evaluation species (BE4).	Construction of interties and supporting infrastructure between existing conveyance facilities and export pumps could result in the permanent loss of managed seasonal wetland habitat area (AE4).	To the extent consistent with ERP objectives, design wetlands to include transition habitat to uplands and upland buffer habitat area that would support small-mammal populations and provide suitable foraging habitat for raptors and other grassland-associated species (M4).
Long-term protection of existing habitat areas from flooding that would result from levee failures (BE5).	Potential for permanent loss of habitat on Delta islands that support managed wetlands and are used for storage (AE5).	To the extent practicable, avoid construction activities in habitat areas when evaluation species are present and could be affected by proposed actions (M5).
Potential for increasing the availability of water for management of existing and created managed seasonal wetland habitat areas if water supplies are made available for such uses through water transfers (BE6).	Potential for loss of managed seasonal wetlands if wetlands are retired to reduce selenium loadings (AE6).	To the extent consistent with program objectives, avoid constructing conveyance facilities and associated infrastructure within managed seasonal wetland habitat areas (M6).

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Table I-2. Continued

Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program
Potential for increase in managed seasonal wetland habitat area if storage facilities are located on islands that support little or no seasonal wetland habitat and storage islands are operated in a manner that results in the creation of wetland habitats (BE7).	Potential adverse effects of the program are not analyzed. The type and magnitude of potential adverse effects would depend on the type of specific program actions that are implemented (N/A).	To the extent consistent with program objectives, select Delta islands that do not support seasonal wetlands for use as storage facilities (M7).
Overall increase in habitat area and potential for substantial increase in habitat values associated with managed seasonal wetlands as a result of improved management (BE8).	Likely to be no discernable adverse effects on existing habitat areas and associated evaluation species (N/E).	To the extent consistent with program objectives, manage storage operations to create seasonal wetland habitat areas along shorelines and lands exposed during drawdown periods (M8).
Potential for substantial increase in habitat values associated with managed seasonal wetlands as a result of improved management (BE9).		
Long-term protection of agricultural lands that provide forage for species that also use managed seasonal wetlands from potential loss or degradation associated with potential future changes in land use (BE10).		
Potential beneficial effects of the program are not analyzed. The type and magnitude of potential beneficial effects would depend on the type of specific program actions that are implemented (N/A).		
Likely to be no discernable beneficial effects on existing habitat areas and associated evaluation species (N/E).		